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PROBLEMS IN THE ARCHITECTURAL DESIGN OF PRIVATE STUDENT DORMITORIES: LOCAL AND FOREIGN EXPERIENCE

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Annotation. The development of private student dormitories is becoming increasingly important due to the growing number of students and the need for comfortable housing. This article analyzes the main problems in the architectural design of private student dormitories based on local and foreign experience. The study focuses on functional, planning and spatial challenges, as well as the need to improve living conditions and create a comfortable environment for students. The findings may be useful for improving the architectural design of modern student dormitories.

Keywords: student dormitories, private dormitories, architectural design, architectural planning, functional zoning, local experience, foreign experience.

Annotatsiya. Talabalar sonining ortib borishi hamda qulay yashash sharoitlariga bo'lgan ehtiyojlarning oshishi natijasida xususiy talabalar yotoqxonalarini rivojlantirish tobora dolzarb ahamiyat kasb etmoqda. Mazkur maqolada mahalliy va xorijiy tajribalar asosida xususiy talabalar yotoqxonalarini arxitektura loyihalashdagi asosiy muammolar tahlil qilinadi. Tadqiqotda funksional, va loyihalashdagi muammolarga, shuningdek talabalar uchun qulay yashash muhitini yaratish hamda yashash sharoitlarini yaxshilash zarurligiga alohida e'tibor qaratilgan. Olingan natijalar zamonaviy talabalar yotoqxonalarining arxitektura yechimlarini takomillashtirishda foydalanilishi mumkin.

Kalit so'zlar: talabalar yotoqxonasi, xususiy yotoqxonalar, arxitekturaviy loyihalash, arxitekturaviy rejalashtirish, funksional zonalash, mahalliy tajriba, xorijiy tajriba.

Аннотация. Развитие частных студенческих общежитий приобретает большую актуальность в связи с ростом численности студентов и необходимостью обеспечения комфортных условий проживания. В данной статье рассматриваются основные проблемы архитектурного проектирования частных студенческих общежитий на основе анализа отечественного и зарубежного опыта. Особое внимание уделяется функциональным, планировочным и пространственным проблемам, а также необходимости улучшения условий проживания и формирования комфортной среды для студентов. Полученные результаты могут быть

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использованы при совершенствовании архитектурных решений современных студенческих общежитий.

Ключевые слова: студенческое общежитие, частные общежития, архитектурное проектирование, архитектурное планирование, функциональное зонирование, отечественный опыт, зарубежный опыт.

INTRODUCTION.

Today, as a result of the growing interest in studying among young people, the demands for universities and higher education institutions are also increasing. For this reason, the number of students coming from regions to study in higher educational institutions located in our capital is increasing significantly. The result of this can be seen in the number of students and graduates who are increasing year by year. Students admitted to higher education institutions in 2021-2022 are twice as many as in 2018-2019. At the same time, the shortage of "Dormitory accommodation" provided by universities is causing great problems. This shows that higher education institutions can provide 19.6% of students with dormitory accommodation. The rest of the students are forced to rent houses or live with their relatives in order to study at universities. This is causing great protests by students and parents.

In order to solve this problem, it was necessary to develop projects of a special dormitory building for students in the city of Tashkent. And the "Student dormitory" project, which can accommodate 1400 students, was developed. The project was designed not only as a student dormitory for a certain university, but also in cooperation with several universities.

In recent years, as a result of the increased interest in the field of education in our Republic, many new types of state and non-state universities and educational programs have been launched. Including, in 2022, a total of 162 higher education institutions will be operating in the Republic of Uzbekistan. The lowest number of universities in the Navoi region is 2, and the largest number is 63 in the city of Tashkent. This indicates the high demand for higher education institutions in Tashkent. Due to the high demand for higher education institutions, the demand for student dormitories also increases by itself. This means that the number of student dormitories in Tashkent should be increased.[1]

[1] Ministry of Science and Innovation of the Republic of Uzbekistan, Territorial location of higher education institutions', *Stat.edu.uz*, 2020. < https://stat.edu.uz/> accessed 4 March 2024.

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№	Region name	Amount of higher education institution
1	Republic of Karakalpakstan	10
2	Khorazm	8
3	Navoiy	2
4	Bukhara	7
5	Kashkhadarya	8
6	Surkhandarya	6
7	Samarkhand	15
8	Jizzakh	5
9	Sirdarya	3
10	Tashkent City	63
	Tashkent	9
11	Namangan	6
12	Andijan	11
13	Farkhona	9

Figure:1 Amount of Higher Education Institution in Uzbekistan. Sourse: https://stat.edu.uz/, edited by Nusratbek Kuchkorbekov, 2023

In order to statistically see the high demand for family educational institutions, hostels and residences in the city of Toshken, research was conducted. It is possible to show the results of research in the last 10 years. In particular, a total of 110,771 students were admitted to higher education institutions in 2010-2011 academic years, 121,562 in 2018-2019 academic years and 254,881 in the last 2021-2022 academic years. Put If these indicators are taken in terms of students admitted to higher education institutions and from different regions, 38,694 students in 2016-2017 academic years and 97,874 students in the last 2021-2022 academic years. This represents the number of students directly provided with hostels by higher education institutions as follows.

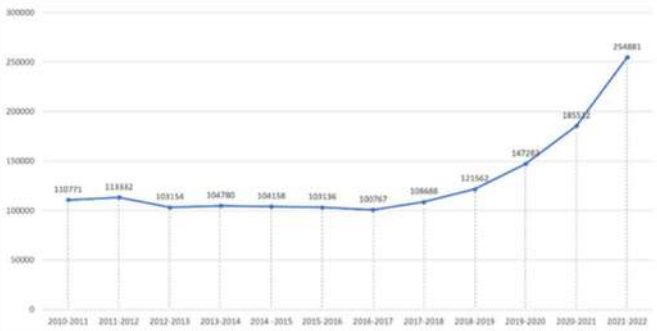


Table: 3 The number of students who came to study in Tashkent from the provinces. Research: https://stat.uz/uz/. Edited by: Nusratbek Kuchkorbekov

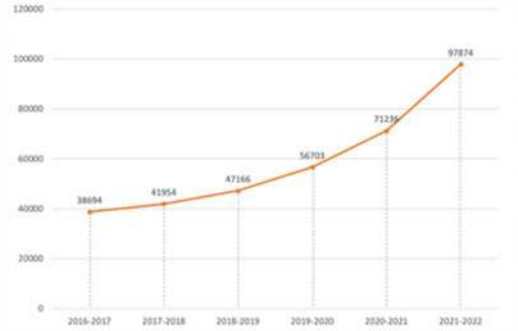


Table: 2 The number of students studying in higher education institutions in Tashkent. Research: https://stat.uz/uz/. Edited by: Nusratbek Kuchkorbekov

The total number of higher education institutions in Tashkent is 63. 40 of them are state, 7 are non-state and 16 are foreign higher education

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universities. There are 30 universities, 19 institutes, 3 academies and 11 university and institute branches by types of higher education institutions. A total of 254,881 students were admitted to higher education institutions for the 2022-2023 academic year. Almost 60% of them are children and 40% are girls. There are 196,121 full-time students in the field of education.



Table: 5 Types of higher education institutions in Tashkent. Research: https://stat.edu.uz/ Edited by: Nusratbek Kuchkorbekov

Table: 6 Types of higher education institutions in Tashkent. Research: https://stat.edu.uz/ Edited by: Nusratbek Kuchkorbekov

Currently, there are students studying not only bachelor's degrees, but also master's degrees in higher education institutions. For the 2022-2023 academic year, 238,292 students are studying for bachelor's degrees and 16,586 students for master's degrees. There are 71,894 students of the 1st stage of the bachelor's course, and 1059 students of the 6th stage. The largest number of master's degree students is 8,730 students of the 1st stage.[2]

As a result of statistical data, higher education institutions with the largest number of students in Tashkent were studied. As a result of the research, a sequence of 4 universities with the largest number of students was formed. In a row, Mirzo Ulugbek National University of Uzbekistan took first place with 28,860 students, and the last place was taken by Uzbekistan State University of World Languages with 20,425 students. Tashkent State Technical University and Tashkent State Pedagogical University took the 2nd and 3rd places. As a result of the research, it is possible to see that the following universities are at the top of the list of universities that have admitted the most students over the years. This will help in finding a convenient location for the Student Dormitory project.[3]

[2] Ministry of Science and Innovation of the Republic of Uzbekistan, The number of higher education institutions by form of ownership, Gender of student, Bachelor and Master students of higher education institutions in Tashkent', *Stat.edu.uz*, 2020. < https://stat.edu.uz/> accessed 5 March 2024.

[3] Ministry of Science and Innovation of the Republic of Uzbekistan, the number of students studying at higher education institutions in Tashkent (at most 4 higher education institutions), *Stat.edu.uz*, 2020. < https://stat.edu.uz/> accessed 5 March 2024.

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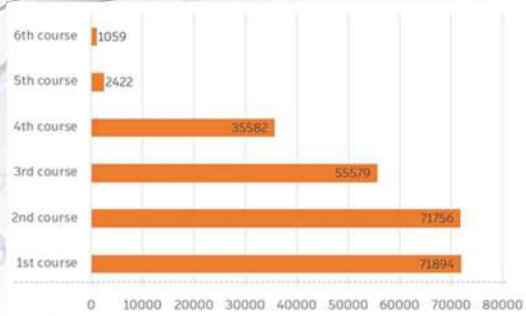


Table: 7 Bachelor students of higher education institutions in Tashkent. Research: https://stat.edu.uz/ Edited by: Nusratbek Kuchkorbekov

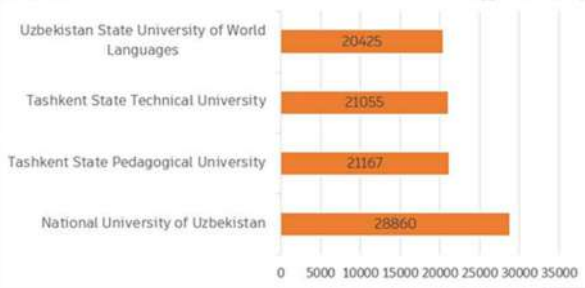


Table: 8 At most 4 higher education institutions. Research: https://stat.edu.uz/ Edited by: Nusratbek Kuchkorbekov

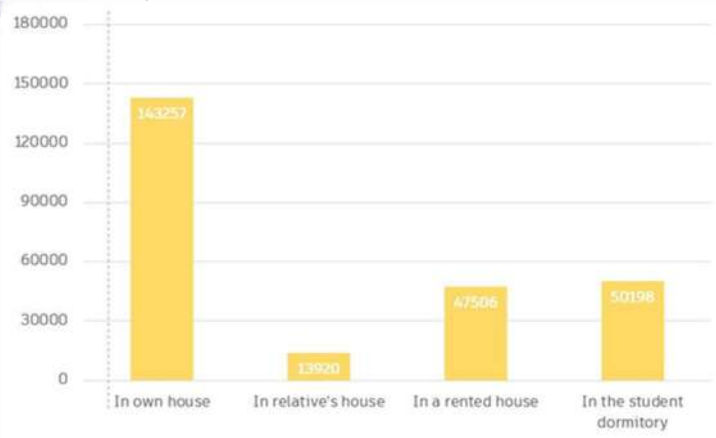
It is possible to see that the "Student Dormitory" project is a necessary project for the students of our country by the following statistics. In these statistical indicators, it is possible to have information related to the residences of young students studying in higher educational institutions. In the 2022-2023 academic years, a total of 254,881 students are studying at higher educational institutions, of which 143,257 live in their own homes, and 13,920 live in the homes of their relatives. The remaining 50,198 students live in student dormitories provided by higher education institutions, and 47,506 students live in rented apartments. This indicates that there is a lack of student dormitories or dormitory conditions provided by higher educational institutions.

After this information, research was conducted about the students who live on rent, in which districts they live on rent. As a result of the research, several district sequences of student residence districts appeared. 12,155 tenant students live in Yunusabad district, 10,171 tenant students in Uchtepa district, and 1,376 tenant students in Bektemir district and 694 tenant students in Yangi Hayot district. Mirzo Ulug‘bek, Almazor, Shaykhontohur and Chilanzor districts recorded average indicators.

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Table: 9

Student accommodation statistics(unit). Research: https://stat.edu.uz/ Edited by: Nusratbek Kuchkorbekov



Based on the study of domestic practice in the formation of student housing, part of the dormitory buildings is integrated into a larger complex — a student town (campus). Such complexes may be located within university territories or at a distance from them. They may serve students of a single university or, less frequently, function as inter-university residential centers. Examples of inter-university student campuses include the inter-university student town in Tashkent on Beruniy Street, and the student campus-microdistrict in Kharkiv on Tselinogradskaya Street, among others.

Regardless of location and occupancy, a student campus usually includes several dormitory buildings, a club facility, and an open sports ground within a shared territory. In most cases, the territory is not equipped with parking areas, recreational spaces, or zones for social interaction. Lighting elements, benches, shelters, and other small architectural forms are either insufficient or completely absent. As a result, the functional potential of the territory in most existing student campuses remains underdeveloped (Figure 1.11).

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Figure 1.11. Student campus of Nizami Tashkent State Pedagogical University. The functional potential of the territory of the complex is not fully realized.

In most of the surveyed buildings, residential rooms of varying sizes were provided, designed to accommodate different numbers of occupants. In the majority of cases (85.5%), three-person rooms were present, and a quantitative predominance of such rooms was also observed in buildings with mixed room types. Four-person (59.5%) and two-person rooms (53.1%) are also common, while single-person (6.0%) and five-person rooms (1.7%) are the least frequent.

The conducted study allows for the identification of a typical residential room layout with the most common set of furniture (Figure 1.12). This is a three-person room of 16–18 m², containing three beds, three bedside tables, three chairs (stools), one desk, and a wardrobe (often built-in).

The predominance of shared accommodation for three residents per room (and less frequently two or four persons), with an average living space of 5.5–6 m² per person, leads to spatial overcrowding. This negatively affects students' ability to complete independent academic tasks and engage in individual activities, creating discomfort and inconvenience.

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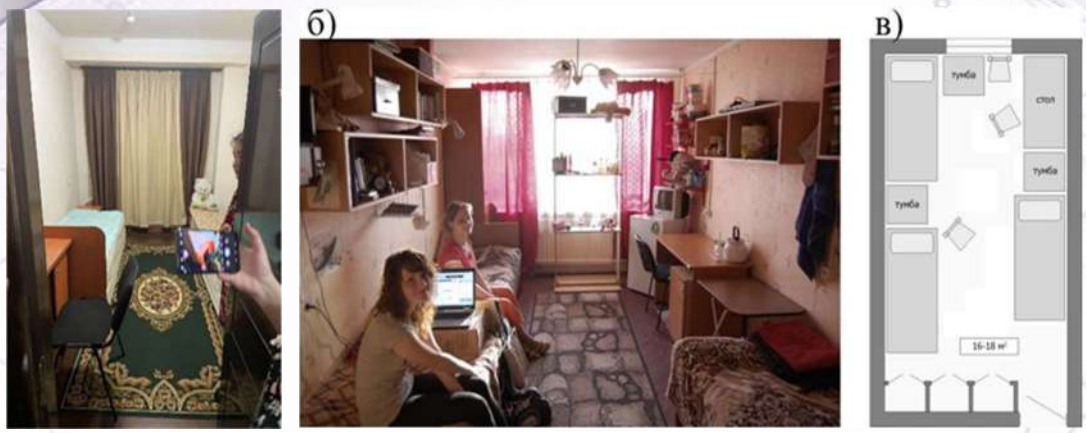


Figure 1.12. Typical organization of residential rooms (a – student dormitory room at Tashkent Institute of Architecture and Civil Engineering, b – dormitory of Tashkent Financial Institute, c – typical floor plan of a student housing room).

For the analysis of international experience in the organization of temporary housing at higher education institutions, a study was conducted covering both dormitories integrated within university campuses and standalone student housing buildings. The research was based on published academic and professional sources. Particular attention was given to examining advanced architectural approaches to the design and formation of student housing buildings and complexes at leading universities worldwide.

The complex is located on the outskirts of the Sehome Arboretum Park, with buildings placed directly among the trees. The calm architectural style and color scheme in beige and brown tones blend harmoniously with the landscape and create an atmosphere conducive to intellectual work (Figure 1.18).

The complex consists of seven buildings, which in total include twenty-two three-story sections. Each floor contains two blocks, each featuring a spacious living room-hall of a large area with an integrated kitchen and a balcony. Two rooms open into the living area, each designed to accommodate one or two residents. The entire complex is within convenient walking distance from the university's academic and laboratory buildings.

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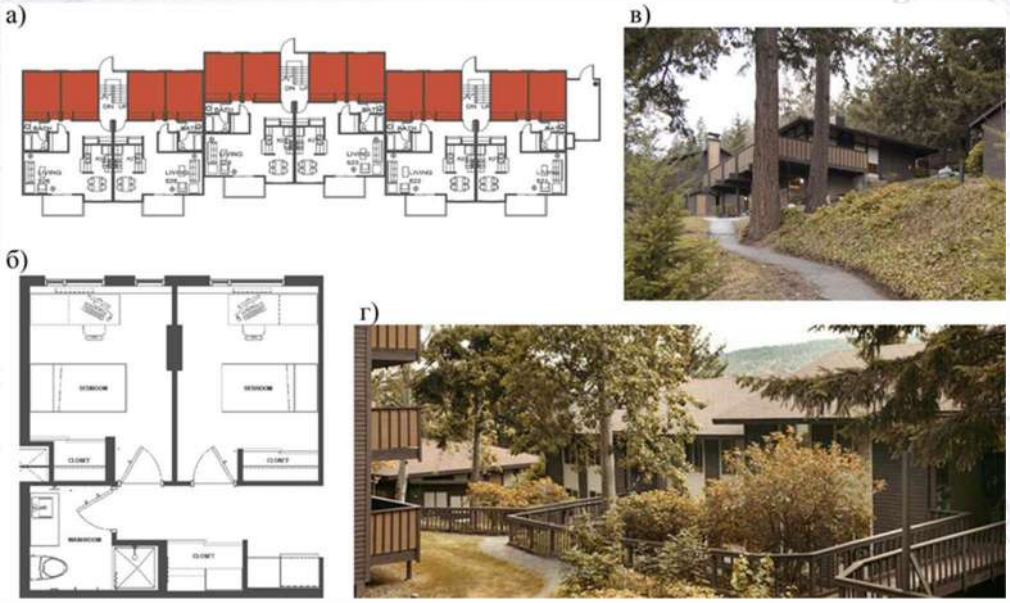


Figure 1.18. Wood Apartments in the South Campus of Western Washington University, Bellingham, USA (a – floor plan of the residential level, b – room layout solution, c and d – photographs of the complex).

Based on the analysis of international practice, a predominance of mid-rise buildings can be observed. Low-rise solutions are also encountered, which are not commonly found in domestic practice. An example of a low-rise project is the graduate student residences of Yale University in New Haven, Connecticut, USA, designed by architect Paul Marvin Rudolph. The complex consists of low-rise buildings that are spatially organized around a residential unit for two rooms (Figure 1.19).

Each block section includes two bedrooms, a living room with an integrated kitchen, a bathroom with a toilet and bathtub, as well as a storage closet.

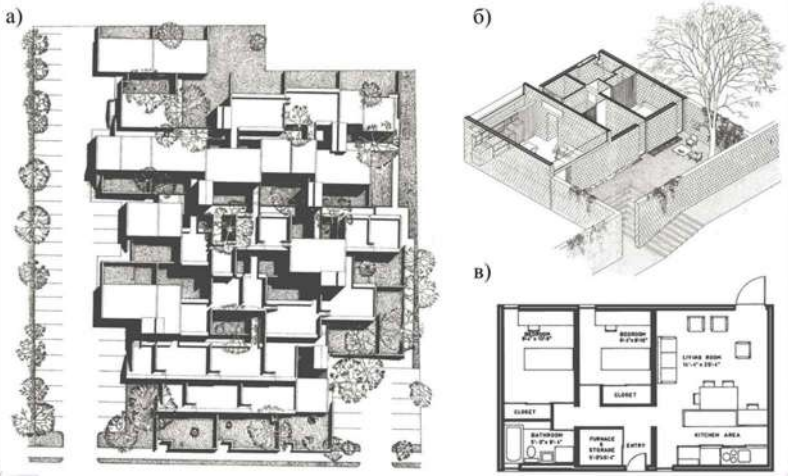


Figure 1.19. Graduate student residences at Yale University, New Haven, Connecticut, USA,architect Paul Marvin Rudolph (a – master plan, b and c – residential block section).

CONCLUSION. Based on the conducted analysis of international and domestic experience in the formation of student housing, it can be concluded that

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modern approaches to dormitory design differ significantly in terms of functional and spatial organization.

International practice is characterized by more diverse architectural and planning solutions, including both low-rise and mid-rise buildings, as well as a well-developed system of public and recreational spaces. Particular attention is given to creating a comfortable living environment, functional zoning, and maintaining a balance between private and communal areas. In domestic practice, there is a predominance of standardized solutions with high occupancy density, limited variability of layouts, and insufficient development of communal and recreational spaces.

The analysis also showed that the most common form of accommodation is three-bed rooms with limited living space, which under conditions of high occupancy leads to spatial and everyday inconveniences. Thus, the identified features confirm the need to improve the architectural and planning solutions of student housing, taking into account modern requirements for comfort, functionality, and the creation of a high-quality living environment for students.

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5. Student accommodation statistics(unit). Research: https://stat.edu.uz/

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